OR-2

AZOLOAZINES AS PERSPECTIVE ANTIGLYCATING AGENTS FOR THERAPY OF DIABETES COMPLICATIONS

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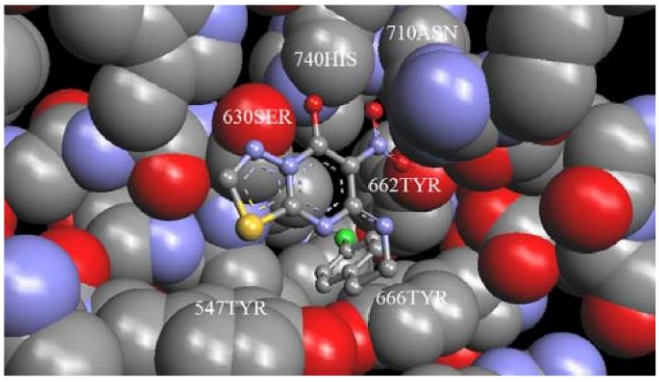
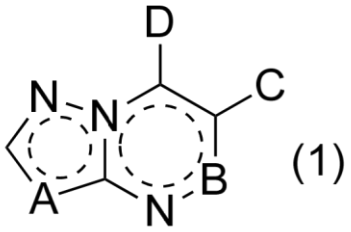
Abstract. In 2015, there were an estimated 415 million people diagnosed with DM in the world. DM disability and mortality are directly associated with late vascular complications (cardiovascular disease, retinopathy, renal failure, encephalopathy, impaired peripheral blood circulation, and others). Accumulation of advanced glycation end products (AGEs) in tissues is considered as a main driver of these complications. Non-enzymatic glycation of proteins (Maillard reaction) is the way of AGEs formation.





(1)

AGE inhibition,
IC_{50} in the range of
$48.13…690.75*10^{-6}$ mol

We have proposed a synthetic scheme towards promising class of azoloazine heterocycles (1) and proved antidiabetic potential of these compounds by computational methods and experiments in vitro. It was shown that azoloazines (1) demonstrated higher antiglycation activity than reference compound, aminoguanidine, and have some potential as dipeptidylpeptidase-4 inhibitors. By given results this class of heterocycles can be considered as candidate for extended studies to develop drugs against complications of T2DM [1,2].

References

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